[6] Bellcore Technical Reference, TR-EOP-000242, Issue 1, May 1985, Network Interface for Non-registered Voice-band Analog Private Line Services.

[7] Bellcore Technical Reference, TR-NPL-000334, Issue 1, June 1986, Revision 1, November 1987, Voice Grade Switched Access Service - Transmission Parameter Limits and Interface Combinations.

[8] Bellcore Technical Reference, TR-NPL-000335, Issue 1, June 1986, Revision 1, February 1987, Revision 2, November 1988, Voice Grade Special Access Service - Transmission Parameter Limits and Interface Combinations.

[9] Bellcore Technical Reference, TR-NPL-000336, Issue 1, October 1987, Metallic and Telegraph Grade Special Access Service Transmission Parameter Limits and Interface Combinations.

[10] Bellcore Technical Reference, TR-NPL-000337, Issue 1, July 1987, Program Audio Special Access and Local Channel Services

[11] Bellcore Technical Reference, TR-NPL-000338, Issue 1, December, 1986, Television Special Access and Local Channel Services - Transmission Parameter Limits and Interface Combinations.

[12] Bellcore Technical Reference, TR-NPL-000339, Issue 1, October 1987, Wideband Analog Special Access Service Transmission Parameter Limits and Interface Combinations.

[13] Bellcore Technical Reference, TR-NPL-000340, Issue 1, October 1987, Wideband Data Special Access Service Transmission Parameter Limits and Interface Combinations.

[14] Bellcore Technical Reference, TR-NPL-000341,Issue 1, March 1989, Digital Data Special Access Service - Transmission Parameter Limits and Interface Combinations.

[15] EIA/TIA Standard, EIA/TIA - 570, June 1991, Residential and Light Commercial Telecommunications Wiring Standard.

[16] EIA/TIA Standard, EIA/TIA - 568, July 1991, Commercial Building Telecommunications Wiring Standard.

[17] Bellcore Special Report, SR-STS-000307, Issue 2, December, 1990, Industry Support Interface (ISI): NC/NCI Code Dictionary.

[18] Bellcore Technical Reference, TR-EOP-000242, Issue 1, May 1985, Network Interface for Nonregistered Voice-Band Analog Private Line Services.

[19] ANSI T1.408-1990, Integrated Services Digital Network Primary Rate - Customer Installation Metallic Interface Layer 1 Specification.

[20] ANSI T1.409-1991, Interface between Carriers and Customer Installations - Analog Voicegrade Special Access Lines Using E&M Signaling.

[21] ANSI T1.605-1991, Integrated Services Digital Network (ISDN) - Basic Access Interface From S and T Reference Points (Layer 1 Specification).

2.2 Sources

[1] FCC Documents:
        Government Printing Office
        Washington DC 20402
        (202) 783-3238

[2] American National Standards:
        The American National Standards Institute
        11 West 42nd Street
        New York, NY 10036
        (212) 642-4900

[3] Bellcore Technical References:
        Bell Communications Research
        60 New England Ave
        Piscataway, NJ 08854-4196
        1(800) 521-2673

[4] Telecommunications Industry Assn./Electronics Industries Assn.:
        Global Engineering Documents
        1990 M Street, NW
        Washington, DC 20036
        1(800) 854-7179

[5] Committee T1 Technical Reports
        T1 Secretariat
        Exchange Carrier Standards Association
        1200 G Street, N.W.
        Washington, DC 20005
        (202) 434-8845

3. GENERAL INFORMATION

This Technical Report is intended to be used as a reference for the selection of the appropriate connector wiring configuration at the Carrier to Customer Installation (CI) Interface and within the CI. The physical connector specifications are not included. Information on physical connector specifications can be obtained by referencing the applicable standard or regulation.

As new connector configurations are submitted, the committee will consider them for inclusion into the catalog. When new configurations are adopted, a revised Section index will be made available along with the new or revised configurations. Each configuration will be dated to insure proper identification.

3.1 Registration Connector Configurations

Registration connector configurations are those wiring configurations that have been adopted by the Federal Communications Commission (FCC) as standard connector configurations for connection of registered terminal equipment or systems to the telecommunications network. Connector configurations included under the FCC program are designated RJ---. This five character designation identifies the exact wiring configuration that will be provided by the carrier and customer at the network interface.

3.2 Standard Connector Configurations

Standard connector configurations are those configurations that have been adopted under an industry standard, but are not within the scope of the FCCs Registration Program. These connector configurations are designated by a five character code SJ---. This code designates the exact wiring configuration that will be provided by the carrier and customer at the network interface.

3.3 Other Connector Configurations

Other connector configurations include those configurations that are described in technical references or tariffs published by carriers. These connector configurations can be designated by a three or five character code at the discretion of the carrier. The code designates the configuration that a particular carrier provides. This code may not be the same for all carriers.

3.4 Customer Premises Connector Wiring Configurations

Customer premises connector wiring configurations are determined either by a standards forum or a manufacturer. Manufacturers have the freedom to develop a connector configuration independent of the RJxxx connectors for equipment to equipment or equipment to premises wiring connectors. Some manufacturers have developed

individual connector wiring configurations while others have used connector configurations that mirror the RJxxx designations.

3.5 Physical Specifications

The physical specifications for the connector configurations depicted in this technical report are covered by FCC regulations or other industry standards. The physical specifications for all connectors used in the FCCs Registration Program are outlined in Part 68 of the FCCs Rules and Regulations. Specifications for standard jacks or other connections can be found in either the associated technical reference or industry standard.

4. INTERFACE CODES

Interface Codes were established to facilitate ordering the proper transmission levels, signaling arrangements and electrical characteristics at the Carrier to Customer Installation Interface. Two distinct types of network interface codes have been standardized, Facility Interface Codes (FIC) and Network Channel Interface (NCI) codes. The format of both code types provide the means to specify the necessary parameters.

For the purpose of this document, no distinction is made regarding jurisdictional application by code type and both are listed under "Interface Codes" in this Section. The Tables are provided to assist in determining which connector configuration is usually associated with which interface. Tables 3,9,10,11 and 12 indicate the connector wiring configurations that are usually associated with the interface codes. Table 9 and 10 address non-switched analog and digital services. Table 11 and 12 address switched analog and digital services. Table 3 provides a matrix of the analog facility interface codes.

4.1 Facility Interface Codes

Facility Interface Codes were adopted to facilitate the ordering of certain analog private line services that had been included under Part 68 of the FCCs Rules and Regulations. With the adoption of Part 68 rules for digital services, the FCC expanded the FIC's. The new codes that were adopted, at the recommendation of the industry, were the NCI codes that had been developed for switched and special Access Services. In associated FCC documents these codes are listed as "Facility Interface Codes", somewhat blurring the distinction between the code types. Examples of the two FIC structures are given in Table 1. A translation guide for analog codes developed with a FIC structure is provided in Table 2. Table 3 provides cross-references to the FICs and the connectors. Translation guidelines for FIC codes structured as NCI codes are provided in Tables 4 thru 8.

4.2 Network Channel Interface Codes

NCI codes were developed in connection with the AT&T divestiture of the Bell Operating Companies and were originally intended to define interfaces connecting Local Exchange Carrier (LEC) facilities with Interexchange Carriers (IC) or End User (EU) customers of ICs for ordering of Access Services. Many NCI codes were developed that do not define interfaces suitable for Carrier to Customer interconnection. Therefore this report will not attempt to identify all possible NCI codes. Table 4 provides the structure of the NCI codes and Tables 5 and 6 provide a list of the Total Wires and the Impedance Codes options in the NCI structure. Table 7 provides an illustrative list of the NCI protocal codes that are used to define Carrier to Customer Installation interfaces ordered as access arrangements.

4.3 Technical Description Codes

An earlier interface code type, the Technical Description Codes (TDC), although still valid for connection of certain grandfathered equipment, will not be addressed in the wiring configurations of this Technical Report. (An example of a TDC for a tie trunk arrangement is 11TTMB.)

Table 1. Examples of Facility Interface Codes

  Analog Facility Interface Codes - FIC Structure (See Table 2)

OL13A,B, or C Off Premises Stations
AX15X   Automatic Identification of Outward Dialing (AIOD)
MX13X   Message Registration
TL11M or E   Tie Trunk
TL12M or E   Tie Trunk
TL31M or E   Tie Trunk
TL32M or E   Tie Trunk
TC31M or E   Tie Trunk
TC32M or E   Tie Trunk

  Analog Facility Interface Codes - NCI Structure (See Table 4)

02LR2   2-wire Private Line automatic ringdown
04LR2   4-wire Private Line automatic ringdown
02AC2   2-wire Private Line manual ringdown: customer
          provided ringing
04AC2   4-wire Private Line manual ringdown: customer
          provided ringing
02NO2   2-wire Private Line no signaling conversion (Inband)
02LS2   2-wire switched access loop start
02GS2   2-wire switched access ground start
04LS2   4-wire switched access loop start
04GS2   4-wire switched access ground start
02RV2-T   2-wire switched access reverse battery customer
          terminates -- use for Direct Inward Dialing ports
04RV2-T   4-wire switched access reverse battery customer
          terminates -- use for Direct Inward Dialing ports
Metallic 2- or 4-wire metallic Private Line
LADC   Local Area Data Channels

  Digital Facility Interface Codes - NCI Structure (See Table 4)

1.544 Mbps Service

04DU9-B   1.544 Mbps Superframe format (SF)
04DU9-C   1.544 Mbps Extended Superframe format (ESF)
04DU9-S   1.544 Mbps Extended Superframe format & B8ZS line code
04DU9-Z- 1.544 Mbps Extended Superframe format with ZBTSI

Subrate Services

04DU5-24 2.4 kbps digital interface
04DU5-48 4.8 kbps digital interface
04DU5-56 56 kbps digital interface
04DU5-96 9.6 kbps digital interface

Table 2. Analog Facility Interface Code Translation

First Character:

A - Automatic Identification of Outward Dialing
M - Message Registration
O - Off Premises Station
T - Tie Trunk

Second Character:

C - Conventional Term Set
L - Lossless Interface
X - Reserved

Third Character:

1 - Type 1 Transmission Interface - 2 wire
3 - Type 3 Transmission Interface - 4 wire

Fourth Character:

1 - Type 1 E&M Interface
2 - Type 2 E&M Interface
3 - Loop Signaling Interface
4 - Reserved
5 - Simplex Signaling

Fifth Character:

A - Registered Class A OPS Port
B - Registered Class B OPS Port
C - Registered Class C OPS Port
E - Provides Ground on E Lead to Originate
M - Provides Battery on M Lead to Originate
X - Reserved

Example for Code TL31M:

T = Tie Trunk
L = Lossless Interface
3 = Type 3 Transmission Interface - 4 wire
1 = Type 1 E&M Interface
M = Provides Battery on M lead to Originate

Table 3: Analog Facility Interface Code (FIC) to Connector Matrix

Jacks	Analog Facility Interface Codes										
	0 L 1 3 A	0 L 1 3 B	0 L 1 3 C	A X 1 5 X	M X 1 3 X	T L 1 1 M/E	T L 1 2 M/E	T L 3 1 M/E	T L 3 2 M/E	T C 3 1 M/E	T C 3 2 M/E
RJ11C/W	1	1	1	1	1						
RJ11T	1	1	1	1	1						
RJ14C/W	2	2	2	2	2						
RJ14X	2	2	2	2	2						
RJ15C	1	1	1	1	1						
RJ17C	1	1	1	1	1						
RJ21X	25	25	25	25	25						
RJ25C	3	3	3	3	3						
RJ1CX						1	1	1	1	1	1
RJ2EX						12					
RJ2FX							8				
RJ2GX								8		8	
RJ2HX									6		6
RJ61X	4	4	4	4	4						

Number indicates the maximum number of circuits per jack.

Table 4. Network Channel Interface Code Structure

Network Channel Interface Code

Field Identifer	Total Wires (See Table 5)		Protocol Codes (See Table 7)		I M P E D A N C E *	D E L I M I T E R	Protocol Option Codes (See Table 7)			D E L I M I T E R	TLP LEVEL T R A N S M I T	R E C E I V E
POSITION	1	2	3	4	5	6	7	8	9	10	11	12
CODE												

* See Table 6

Table 5. Network Channel Interface Code Translation - Total Wires

Total Wires

Code	No. of Wires
02	2
04	4
06	6
07	7
08	8
09	9

Table 6. Network Channel Interface Code Translation - Impedance Codes

Impedance Codes

Code	Nominal Z (ohms)
0	110
2	600
3	900
5	135
6	75
9	100

Table 7. Network Channel Interface Code Translation-Protocol Codes

Note: This list is not all inclusive and is intended to aid in the selection of the proper interface connector.

Protocol Code	Impedance/ Protocol Option		Definition
AC			Provides for the transmission of voice and 20hz ringdown signaling
DA			Provides for the transmission of data and/or control supervisory signals
DB			Provides for the transmission of data and/or control supervisory signals
DC			Direct current or voltage
DE			Provides for the transmission of data or tones
DS	6		44.736 Mb/s Digital Access
DU			Digital access interface
	5	24	2.4 kb/s
	5	24S	2.4 kb/s with secondary channel
	5	48	4.8 kb/s
	5	48S	4.8 kb/s with secondary channel
	5	96	9.6 kb/s
	5	96S	9.6 kb/s with secondary channel
	5	19	19.2 kb/s
	5	19S	19.2 kb/s with secondary channel
	5	56	56 kb/s
	5	56B	Type I or Type III PSDS
	5	56S	56 kb/s with secondary channel
	5	64	64 kb/s
	7	56B	Type II PSDS
	9		1.54 Mb/s
EA			Type I E & M signaling
EB			Type II E & M signaling
GS			Ground start signaling - closed end function presented by end-user
LA			Type A registered port
LB			Type B registered port
LC			Type C registered port
LR			Private Line automatic ringdown with PLAR equipment provided by the LEC
LS			Loop start signaling - closed end function presented by the end-user
NO			Provides for voice transmission with no signaling provided by the LEC
PR			Provides for transmission of mcontrol signals (voice frequency) for protective relaying
RV			Reverse battery (trunk signaling at interface)
TF			Telephoto interface

Table 8. Examples of Network Channel Interface Codes (See Table

02LA2	2-wire loop signaling - Registered Class A OPS Port
02LB2	2-wire Loop signaling - Registered Class B OPS Port
02LC2	2-wire loop signaling - Registered Class C OPS Port
04EA2-M	4-wire Type I E&M signaling - Battery on M to originat
04EA2-E	4-wire Type I E&M signaling - Ground on E to originate
06EA2-M	6-wire Type I E&M signaling - Battery on M to originat
06EA2-E	6-wire Type I E&M signaling - Ground on E to originate
06EB2-M	6-wire Type II E&M signaling - Battery on M to originat
06EB2-E	6-wire Type II E&M signaling - Ground on E to originat
08EB2-M	8-wire Type II E&M signaling - Battery on M to originat
08EB2-E	8-wire Type II E&M signaling - Ground on E to originat
02DA2	2-wire Data Stream in VF frequency band
04DA2	4-wire Data Stream in VF frequency band
06DA2	6-wire Data Stream in VF frequency band

Table 9. Non-Switched Analog NCI/Connector Matrix

Jacks	NCI Protocol Codes																
	AC	DA	DB	DC	DE	EA	EB	GS	LA	LB	LC	LR	LS	NO	PR	RV	TF
JM8		1	1		1										1		1
RJ11C /W	1			1				1	1	1	1	1	1	1		1	
RJ14C /W	2			2				2	2	2	2	2	2	2		2	
RJ14X	2			2				2	2	2	2	2	2	2		2	
RJ15C	1			1				1	1	1	1	1	1	1		1	
RJ17C	1			1				1	1	1	1	1	1	1		1	
RJ18C /W																	
RJ1DC	1			1				1				1	1	1		1	
RJ21X	25			25				25	25	25	25	25	25	25		25	
RJ25C	3			3				3	3	3	3	3	3	3		3	
RJ26X								8					8				
RJ27X								8					8				
RJ1CX						1	1										
RJ2DX	12			12				12				12	12	12		12	
RJ2EX						12											
RJ2FX							8										
RJ2GX						8											
RJ2HX							6										
RJ2MB																	
RJ41S								1					1				
RJ45S								1					1				
RJ4MB																	
RJ61X	4			4				4	4	4	4	4	4	4		4	
JM25X		8	8		8										8		8

The number indicates the maximum number of circuits per jack

Table 10. Non-Switched Digital NCI/Connector Matrix *

Jacks	NCI Protocol Codes												
	DU5-24S	DU5-48S	DU5-96S	DU5-19S	DU5-56S	DU5-2 4	DU5-4 8	DU5-9 6	DU5-1 9	DU5-5 6	DU5-6 4	DS6	DU9
RJ48C													1
RJ48H													12
RJ48M													8
RJ48S						1	1	1		1			
RJ48T						12	12	12		12			
RJ48X													1
SJA44												1	
SJA56	1	1	1	1	1				1		1		
SJA57	12	12	12	12	12				12		12		

The number indicates the maximum number of circuits per ja

* **Note:** Primary Rate ISDN services utilize the same connecto
as listed for the DU 9 NCI Protocol Code.

Table 11. Switched Analog Matrix

Jacks	1 Line					2 Line	3 Line	4 Line	Multiple Lines			
		MB	Pro Data	MB Pro	Pro FLL					MB	Pro Data	Pro FLL
RJ11 C/W	1											
RJ14 C/W						2			2			
RJ14X						2			2			
RJ15C	1											
RJ17C	1											
RJ18 C/W	1	1										
RJ21X										25		
RJ25C							3		3			
RJ26X										8		8
RJ27X										8	8	
RJ2MB									12	12		
RJ41S					1							
RJ45S			1									
RJ4MB				1								
RJ61X								4	4			

Number indicates the maximum number of circuits per jack
MB = Make Busy
Pro Data = Programmable Data
MB Pro = Combined Make Busy and Programmable Data
Pro FLL = Combined Programmable Data and Fixed Loss Loop

Table 12. Switched Digital Matrix *

Jacks	ISDN Basic Access	PSDS 2-Wire	PSDS 4-Wire Single	PSDS 4-Wire Multiple
RJ48S			1	
RJ48T				12
RJ11C	1	1		
RJ21X	25	25		
RJ49C	1			

Number indicates the maximum number of circuits per jack
ISDN = Integrated Services Digital Network
PSDS = Public Switched Digital Service

- **Note:** ISDN Primary rate connectors are the same connectors used for DS 1 services. See Table 9.

5. CARRIER/CI INTERFACE CONNECTOR WIRING CONFIGURATIONS

UNIVERSAL SERVICE ORDER CODE (USOC):   RJ11C/W

ELECTRICAL NETWORK CONNECTION: SINGLE LINE TIP AND RING: RJ11W FOR W
MOUNTINGS AND RJ11C FOR ALL OTHERS

MECHANICAL ARRANGEMENT: 6 POSITION MINIATURE MODULAR JACK

USAGE: SINGLE EXCHANGE ACCESS LINE

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X; MX13X;
METALLIC 2W; 02LA2; 02LB2; 02LC2; O2LS2
02GS2; 02RV2-T; 02LR2; 02AC2; 02NO3; 02DU
56B

WIRING DIAGRAM: 02DU7-56B

```
          ┌ ─ ─ ─ ┐   ┌ ─ ─ ─ ┐
          │   1 <│   │   ←   │
          │   2 <│   │   ←   │
      R ──┼───3 <│   │   ←───┼── R
      T ──┼───4 <│   │   ←───┼── T
          │   5 <│   │   ←   │
          │   6 <│   │   ←   │
          │     <│   │   ←   │
          └ ─ ─ ─ ┘   └ ─ ─ ─ ┘
            JACK         PLUG
             TO          FROM
          NETWORK      CUSTOMER
                     INSTALLATION
```
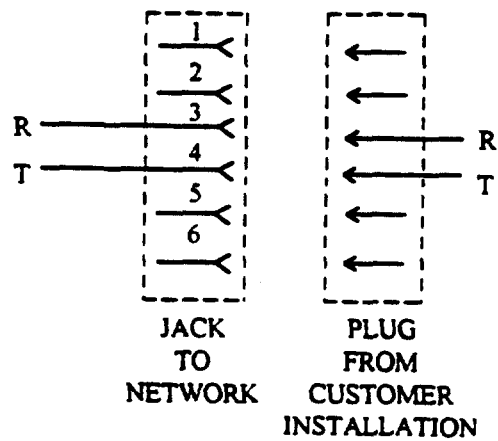
UNIVERSAL SERVICE ORDER CODE (USOC):   RJ11T

ELECTRICAL NETWORK CONNECTION: SINGLE LINE TIP AND RING

MECHANICAL ARRANGEMENT: 6 POSITION MINIATURE MODULAR JACK
                                            (SPECIAL)

USAGE:
                                            SINGLE EXCHANGE ACCESS LINE

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X; MX13X;
                                            METALLIC 2W; 02LA2; 02LB2; 02LC2; O2LS2;
                                            02GS2; 02RV2-T; 02LR2; 02AC2; 02NO2;

WIRING DIAGRAM:

NETWORK

1
2
3
4
5
6

R   TO SUBSCRIBER
      TEST PHONE
T

MINIATURE
6 POSITION
JACK

SUBSCRIBER
TEST PHONE
PLUG

CONTACTS OPEN
WHEN PLUG IS
INSERTED

INSIDE
WIRING

Application note: This connector is different than the RJ11C/W in that customer wiring is connected to the network without the use of a plug. When a plug is inserted into the RJ11T, customer wiring and CPE on the same line will be disconnected.

UNIVERSAL SERVICE ORDER CODE (USOC):   RJ14C/W

ELECTRICAL NETWORK CONNECTION: TWO LINE TIP AND RING: RJ14W
                                              FOR WALL MOUNTINGS AND RJ14C
                                              FOR ALL OTHERS

MECHANICAL ARRANGEMENT: 6 POSITION MINIATURE MODULAR
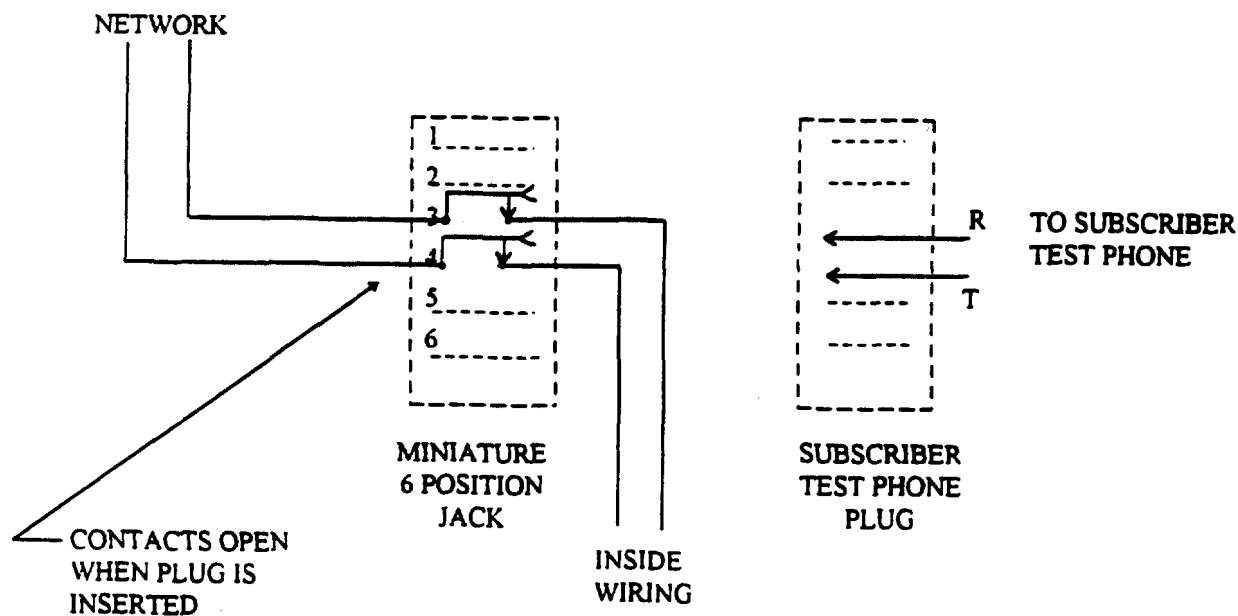   JACK

USAGE: TWO EXCHANGE ACCESS LINES

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X;
                                              MX13X; METALLIC 2W; 02LS2;
                                              02GS2; 02RV2-T; 02LR2; 02AC2;
                                              02NO2; 02LA2; 02LB2; 02LC2

WIRING DIAGRAM:

```
                                 ┌ ─ ─ ─ ─ ─ ┐   ┌ ─ ─ ─ ─ ─ ┐
                                 │    1      │   │           │
                                 │ ─────< │   │  ◄───────  │
                                 │    2      │   │           │
   T   LINE 2  ─────────────────────< │   │  ◄─────── ┤ T (2)
                                 │    3      │   │           │
   R   LINE 1  ─────────────────────< │   │  ◄─────── ┤ R (1)
                                 │    4      │   │           │
   T   LINE 1  ─────────────────────< │   │  ◄─────── ┤ T (1)
                                 │    5      │   │           │
   R   LINE 2  ─────────────────────< │   │  ◄─────── ┤ R (2)
                                 │    6      │   │           │
                                 │ ─────< │   │  ◄───────  │
                                 └ ─ ─ ─ ─ ─ ┘   └ ─ ─ ─ ─ ─ ┘
                                     JACK            PLUG
                                      TO             FROM
                                   NETWORK         CUSTOMER
                                                 INSTALLATION
```

NOTE; THE EXCHANGE CARRIER WILL WIRE THE LINES TO THE CONNECTOR IN THE
SEQUENCE DESIGNATED BY THE CUSTOMER.

UNIVERSAL SERVICE ORDER CODE (USOC):   RJ14X

ELECTRICAL NETWORK CONNECTION: TWO LINE TIP AND RING

MECHANICAL ARRANGEMENT: 6 POSITION MINIATURE MODULAR
                                              JACK WITH A SLIDING COVER TO
                                              FACILITATE TESTING OF EACH LINE

USAGE: TWO EXCHANGE ACCESS LINES WITH
                                              THE PROVISION FOR TESTING EACH
                                              LINE WITH A STANDARD SINGLE
                                              LINE TELEPHONE.

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X; MX13X;
                                              METALLIC 2W; 02LA2; 02LB2; 02LC2;
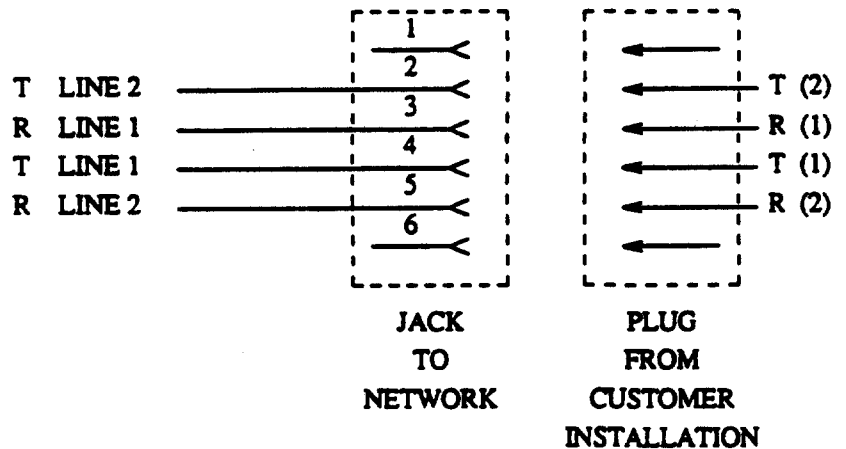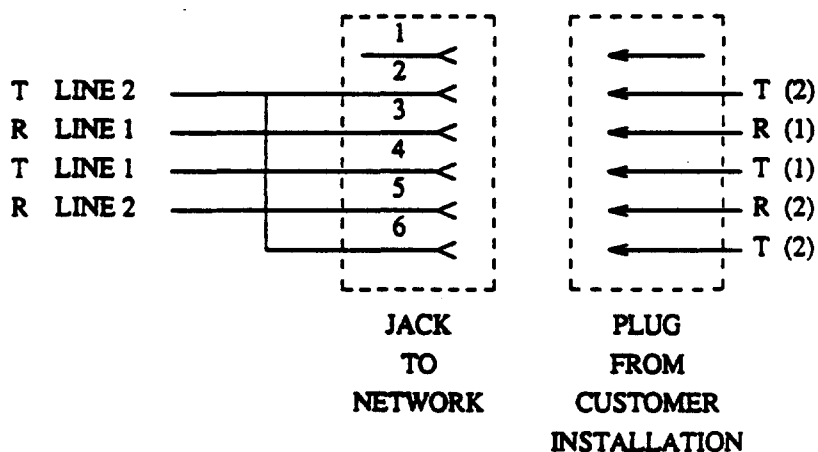   02LS2; 02GS2; 02RV2-T; 02LR2;
                                              02AC2; 02NO2

WIRING DIAGRAM:

	JACK		PLUG
	TO		FROM
	NETWORK		CUSTOMER
			INSTALLATION

NOTE; THE EXCHANGE CARRIER WILL WIRE THE LINES TO THE CONNECTOR IN THE
SEQUENCE DESIGNATED BY THE CUSTOMER.

UNIVERSAL SERVICE ORDER CODE (USOC):   RJ15C

ELECTRICAL NETWORK CONNECTION: SINGLE LINE TIP AND RING

MECHANICAL ARRANGEMENT: 3 POSITION WEATHERPROOF
                                              JACK

USAGE: SINGLE EXCHANGE ACCESS LINE
                                              IN MARINAS

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X; MX13X;
                                              METALLIC 2W; 02LS2; 02GS2; 02RV2-T;
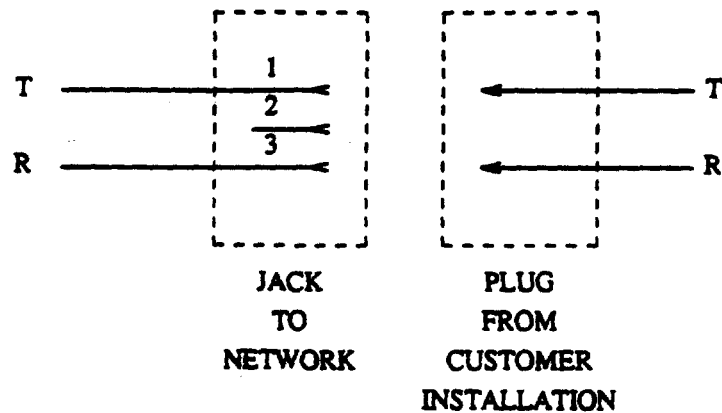   02LR2; 02AC2; 02NO2

WIRING DIAGRAM:

```
              T ─────────────┆──1──┆      ┆◄─────────── T
                             ┆──2──◄┆      ┆
                             ┆──3──◄┆      ┆
              R ─────────────┆──────◄┆      ┆◄─────────── R

                     JACK              PLUG
                      TO               FROM
                   NETWORK           CUSTOMER
                                   INSTALLATION
```

UNIVERSAL SERVICE ORDER CODE (USOC):   RJ17C

ELECTRICAL NETWORK CONNECTION: SINGLE LINE TIP AND RING; POSITIONS
                                  2,3,4,& 5 ARE NOT EQUIPPED WITH
                                  CONTACTS

MECHANICAL ARRANGEMENT: 6 POSITION MINIATURE MODULAR
                                  JACK FOR TERMINAL EQUIPMENT
                                  WHICH COMPLIES WITH 1978 NEC,
                                  ARTICLE 517.

USAGE: SINGLE EXCHANGE ACCESS LINE
                                  IN HOSPITAL CRITICAL CARE
                                  AREAS. USE IS RESTRICTED TO
                                  CONNECTION OF DEVICES WHICH
                                  COMPLY WITH ARTICLE 517 OF
                                  THE 1978 NATIONAL ELECTRICAL
                                  CODE.

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X; MX13X;
                                  METALLIC 2W; 02LA2; 02LB2; 02LC2
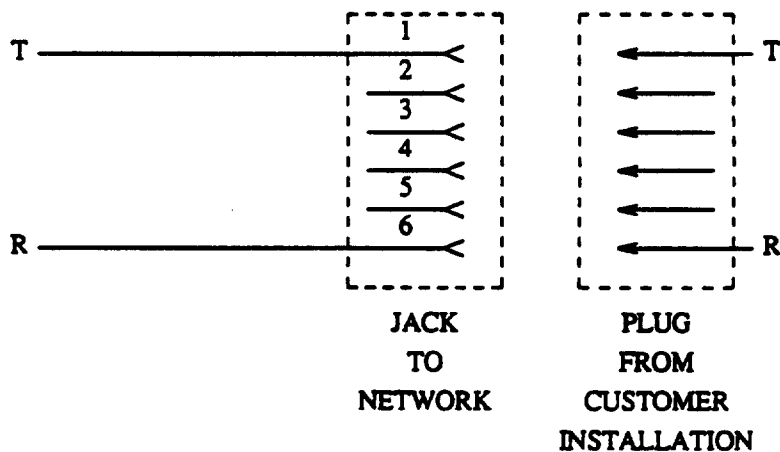   02LS2; 02GS2; 02RV2-T; 02LR2;
                                  02AC2; 02NO2

WIRING DIAGRAM:

JACK TO NETWORK

PLUG FROM CUSTOMER INSTALLATION
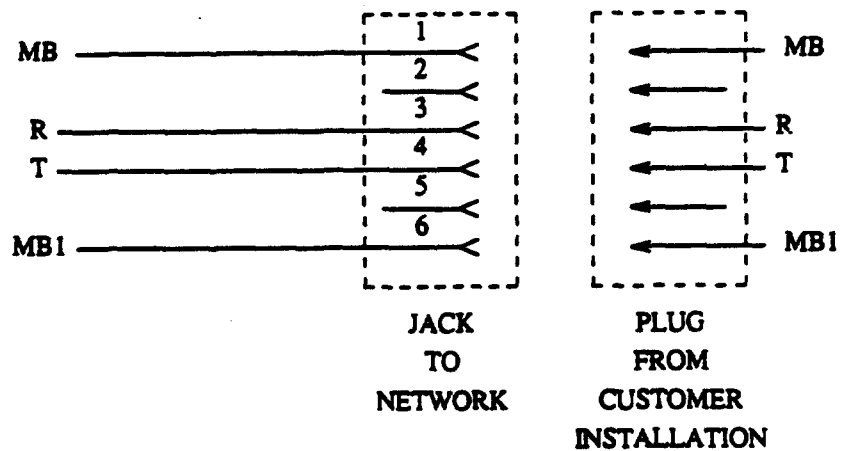
UNIVERSAL SERVICE ORDER CODE (USOC):   RJ18C/W

ELECTRICAL NETWORK CONNECTION: SINGLE LINE TIP AND RING WITH
                                            MB/MB1 LEADS

MECHANICAL ARRANGEMENT: 6 POSITION MINIATURE MODULAR
                                            JACK; T/R WITH MAKE BUSY
                                            ARRANGEMENT

USAGE: SINGLE EXCHANGE ACCESS LINE
                                            WITH A MAKE BUSY

INTERFACE CODES: 02LS2; 02GS2; 02RV2-T

WIRING DIAGRAM:

```
MB ─────────────────────┐ 1 ┌─< ┐   ┌ ─  ←────┤ MB
                        │ 2 │ ─< │   │    ←──── │
                        │ 3 │ ─< │   │    ←──── │
R  ─────────────────────│   │ ─< │   │    ←──── │ R
                        │ 4 │ ─< │   │    ←──── │
T  ─────────────────────│ 5 │ ─< │   │    ←──── │ T
                        │   │ ─< │   │    ←──── │
                        │ 6 │ ─< │   │    ←──── │
MB1 ────────────────────┘   └─< ┘   └ ─  ←──── │ MB1

                          JACK          PLUG
                           TO           FROM
                        NETWORK       CUSTOMER
                                    INSTALLATION
```

UNIVERSAL SERVICE ORDER CODE (USOC):   RJ21X

ELECTRICAL NETWORK CONNECTION: UP TO 25 TIP/RING CONNECTIONS

MECHANICAL ARRANGEMENT: 50 POSITION MINIATURE RIBBON
                                               JACK; 25 T&R

USAGE: MULTIPLE EXCHANGE ACCESS LINES

INTERFACE CODES: OL13A; OL13B; OL13C; AX15X; MX13X;
                                               METALLIC 2W; 02LA2; 02LB2; 02LC2;
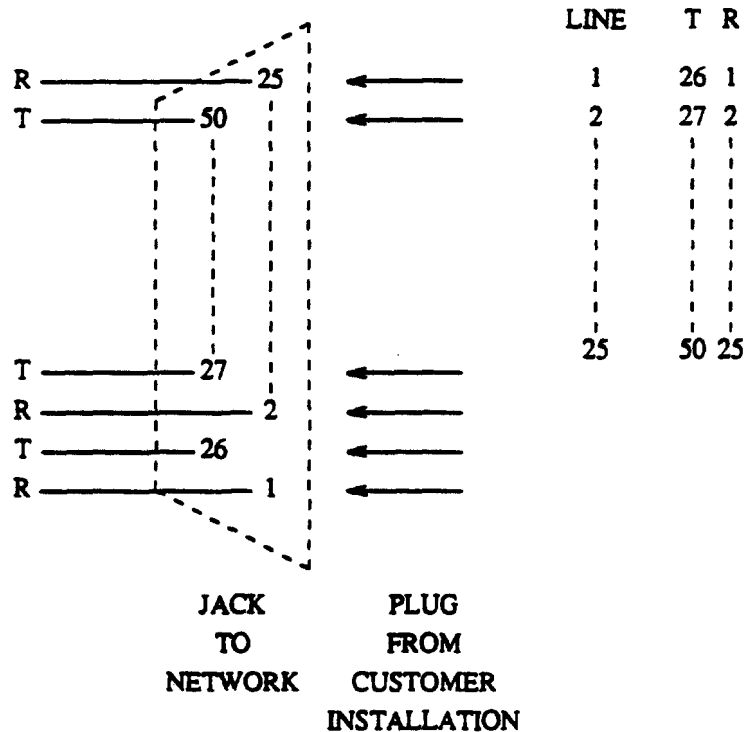   02LS2; 02GS2; 02RV2-T; 02LR2;
                                               02AC2; 02NO2

WIRING DIAGRAM:

LINE	T	R
1	26	1
2	27	2
:	:	:
:	:	:
:	:	:
:	:	:
:	:	:
25	50	25

R ——————— 25
T ——————— 50

T ——————— 27
R ——————— 2
T ——————— 26
R ——————— 1

JACK   PLUG
TO   FROM
NETWORK   CUSTOMER
              INSTALLATION

NOTE; THE EXCHANGE CARRIER WILL WIRE THE LINES TO THE CONNECTOR IN THE
SEQUENCE DESIGNATED BY THE CUSTOMER.

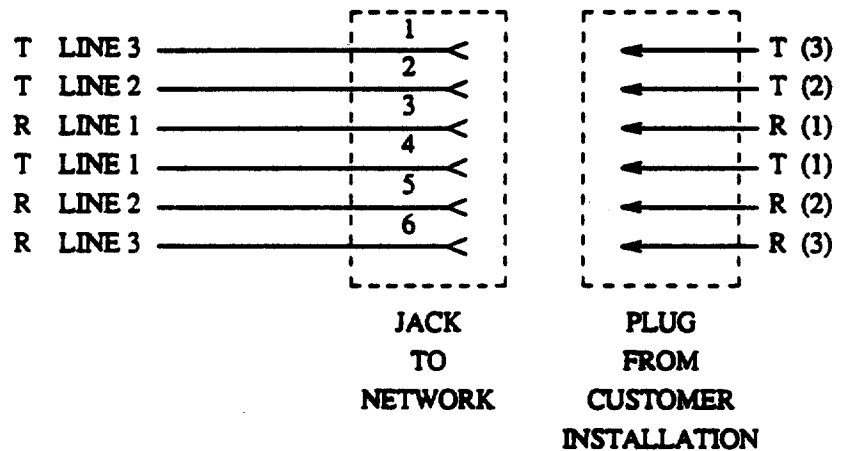|	
UNIVERSAL SERVICE ORDER CODE (USOC):	RJ25C
ELECTRICAL NETWORK CONNECTION:	UP TO THREE LINES, TIP AND RING
MECHANICAL ARRANGEMENT:	6 POSITION MINIATURE MODULAR JACK
USAGE:	THREE EXCHANGE ACCESS LINES
INTERFACE CODES:	OL13A; OL13B; OL13C; AX15X; MX13X; METALLIC 2W; 02LA2; 02LB2; 02LC2; 02LS2; 02GS2; 02RV2-T; 02LR2; 02AC2; 02NO2

WIRING DIAGRAM:

```
T   LINE 3  ──────────┌─1─┐      ┌─────┐ ←──┤─ T (3)
T   LINE 2  ──────────│ 2 │<     │     ←──┤─ T (2)
R   LINE 1  ──────────│ 3 │<     │     ←──┤─ R (1)
T   LINE 1  ──────────│ 4 │<     │     ←──┤─ T (1)
R   LINE 2  ──────────│ 5 │<     │     ←──┤─ R (2)
R   LINE 3  ──────────│ 6 │<     │     ←──┤─ R (3)
                      └───┘      └─────┘
                      JACK       PLUG
                       TO        FROM
                     NETWORK     CUSTOMER
                                INSTALLATION
```

NOTE; THE EXCHANGE CARRIER WILL WIRE THE LINES TO THE CONNECTOR IN THE SEQUENCE DESIGNATED BY THE CUSTOMER.